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Lattice QCD: A Tool for Flavor Physics

ANDREAS KRONFELD, Fermilab

For many years, numerical lattice gauge theory has promised, some day, to provide a tool for calculating hadronic properties *ab initio* from QCD. This talk argues, in three parts, that that day is here. First, we recall recent success in lattice QCD, reproducing well-measured masses, mass splittings, and light-meson decay constants. Second, we present a handful of *predictions*, and their subsequent confirmation by experiment, designed to test our methods. Third, we survey the status and prospects of lattice-QCD calculations needed to understand flavor physics.